

Veterans Memorial Park and Parkway,
M-120 Northbound Bridge
Spanning Cedar Creek (Muskegon River)
Muskegon
Muskegon County
Michigan

HAER No. MI-115-A

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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Great Lakes Systems Office
1709 Jackson Street
Omaha, Nebraska 68102-2571

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**HISTORIC AMERICAN ENGINEERING RECORD
VETERANS MEMORIAL PARK AND PARKWAY
M-120 NORTHBOUND BRIDGE**

HAER No MI-115-A

I. INTRODUCTION

Location: Spanning the Muskegon River (Cedar Creek) at Northbound M-120, North Muskegon, Muskegon County, Michigan

USGS Quad: Twin Lake, Michigan (Revised 1989)

UTM:

Zone: 16	North End	South End
Easting: 561320		561410
Northing: 4790120		4790030

Date of Construction: 1929

Present Owner: State of Michigan
Michigan Department of Transportation
Lansing, Michigan

Present Use: Two-lane vehicular and pedestrian bridge to be replaced by a new vehicular and pedestrian bridge. Demolition began in June 1996. The replacement span is projected to be completed in Fall, 1996.

Significance: The Veterans Memorial Park and Parkway, M-120 Northbound Bridge derives its significance by its historical association with the Veterans Memorial Park. The park and bridge are early examples of landscape planning and design which gained popularity in the period between the wars. The bridge was constructed utilizing standardized plans developed by the Michigan State Highway Department.

Historian: Irene Jackson Henry and William Henry, Henry & Henry Preservation and Architectural Consultants, July 1996.

II. PROJECT BACKGROUND

In 1925 Muskegon Chamber of Commerce Parks Committee Chairman, Lewis Lunsford, proposed establishing a war memorial causeway along the backwaters of Muskegon Lake. Lunsford's plan called for the construction of a modern twin-span causeway to replace an older, single lane bridge linking Muskegon and North Muskegon, spanning Cedar Creek, a branch of the Muskegon River.

The two causeway bridges soon became the focal point for the newly proposed Memorial Park to be constructed between the two bridges. (See MI-115 for information on the Memorial Park). Over the years the bridges have decayed, and are at present not suited for modern transportation needs. Recent bridge inspections conducted by the Michigan Department of Transportation (MDOT) determined that the bridges had sufficient structural flaws to require their replacement.

The Cedar Creek bridges are typical of the modern highway bridges constructed during the 1920's and 1930's. These bridges relied on standardized designs developed by the Michigan State Highway Department (MSHD), Bridge Division, for use on trunkline roads. These standardized plans were available in a variety of configurations and could be modified and adapted to meet the requirements of a particular project. The historic importance of the bridges is their historical association to the Memorial Park, rather than their engineering or technological significance. The Cedar Creek bridges represent a

departure from the traditional use of a bridge to simply span an obstacle. These bridges are among the first Michigan bridges, outside of major urban areas, to play a pivotal role in defining, enhancing and forming a major component of the landscape environment.

III. HISTORICAL INFORMATION

NORTHBOUND M-120 BRIDGE

The northbound (HAER No. MI-115-A) and southbound (HAER No. MI-115-B) bridges along M-120 (formerly US-31) spanning Cedar Creek, a branch of the Muskegon River, help to define the boundary of Muskegon's Veterans Memorial Park. Initial plans for the park were first presented to the Muskegon Chamber of Commerce by Lewis Lunsford in 1925. Mr. Lunsford's initial proposal was met with skepticism. The MSHD originally rejected the proposal, preferring the construction of a single span bridge connecting Muskegon and North Muskegon.

Lunsford continued to persist with his plans for a memorial park. Through his efforts and hard work he was eventually able to muster support for the project. A series of meetings were held between Lunsford and his supporters and the MSHD. Eventually the State Highway Department agreed to construct two separate spans, replacing the older, deteriorated single span wooden structure. In November 1926, \$25,000 was appropriated by the County Road Commission for the construction of the causeways. At this time it was estimated that the causeway project would cost \$400,000, while an additional

\$100,000 would be needed for the erection of a memorial fountain. [1] Under the plan the state and federal governments would be responsible for construction of the approaching boulevards and the roadways including the bridges over the Muskegon River. The Chamber of Commerce and American Legion would assume responsibility for designing and funding the memorial park to be located at the south end of the causeway. In late 1926, the MSHD designated the project a federal aid project and declared the land between the two causeways part of the road project. This allowed the county road commission to appropriate money directly to the memorial. [2]

The bridge was designed using standardized plans developed in the 1920's by the Bridge Division of the Michigan State Highway Department. Prior to 1913, the state highway department had little direct involvement in bridge construction. Bridge construction was handled at the local level with the MSHD on occasion acting as design consultants. With the passage of the State Trunk Line Act (1913) the state was given the responsibility for construction and maintenance of all trunk line roads. The State Reward Act (1919) required the highway department to assume half the cost and supervise construction on all bridges on state reward roads. [3] Soon after the passage in 1913 of the State Trunk Line Act, the MSHD established the Bridge Division with C.V. Dewart as its first director. Soon afterwards Dewart began developing standardized bridge plans. The first plans consisted of concrete girder bridges. These bridges were designed to be constructed by local contractors, utilizing unskilled labor with locally available materials. Plans for

30, 35 and 40 foot spans were initially developed and 45 and 50 foot spans were added in 1916. These bridges were often referred to as "Dewart's Tunnels."

Dewart was succeeded by C.A. Melick who became the state's second bridge engineer. It was under Melick's tenure that the Northbound M-120 bridge was constructed. Melick was a proponent of continuing development of standardized bridge plans, writing numerous articles on the subject in professional journals. Melick quickly recognized the necessity and economic benefits of standardized construction.

"Were time and means available, there would no doubt be as great a variety of types of structures as the conditions would warrant. Indeed, if the smaller political units directly controlling highway structures, were to handle the design of all these structures, the types and variety of treatments adopted would far exceed the number for which there might be any legitimate need. On the other hand, whenever the responsibility for design of a large and varied group of structures is suddenly turned over to one organization to handle, the "economic necessity" arising from the provision of a small and undeveloped organization for handling of such a large problem will bring about the exercise of a great deal of ingenuity in the endeavor to reduce the number of types to a minimum and further, for each type, to provide designs which may, in their scope, take care of the greatest range of conditions. This soon leads to the provision of the so-called "standardized plan" showing a general drawing with a key marking system referring to tables which enable the drawing of "standard plan" to be applied to quite a range of conditions." [4]

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Bids were solicited for the northbound bridge and the project was awarded to the Love Construction and Engineering Company for \$58,608.43. The State provided \$31,045.43 in funds and the Federal Government share was \$27,563.00. [5] Construction was delayed, pending approval of the Bureau of Public Roads and the War Department in Washington D.C. Approval of the Bureau of Public Roads was required because the project was a designated Federal Aid Project. The MSHD petitioned the War Department for approval to constructed a fixed span bridge across the mouth of the Muskegon River, essentially closing the Muskegon River to navigation from Lake Michigan. In January 1928, approval was forthcoming from the War Department. [6] Under the River and Harbor Act of 1899 and the General Bridge Act of 1906 approval of the Chief of Engineers [U.S. Army Corps of Engineers] and the Secretary of War was required prior to the construction of any bridge or structure that would affect navigation. [7] The approval of the War Department was essential, and to celebrate the event Governor Fred W. Green visited the project area announcing that work would begin that summer. [8] In 1929, the northbound bridge was completed and accepted by the MSHD. [9]

The contract for the southbound (west span), was awarded to Wicks Engineering and Construction Company. According to Michigan Department of Transportation records the bridge was completed and accepted in 1931. [10]

During construction, traffic was routed over the existing road and bridge connecting Muskegon and North Muskegon. This road was built on the foundations of an earlier

roadway that was built on the foundations of a even earlier corduroy logging road. In 1932, upon completion of the new bridges, the MSHD appropriated \$700.00 for the removal of the old bridge and roadway. [11]

A review of Michigan Department of Transportation (MDOT) files found no information concerning the actual construction of the bridge or early maintenance records. These records were destroyed in the Cass Building fire in February 1951, or discarded. [12]

In May 1989, the MDOT recommended the bridge be replaced within the next five years.

[13] In July 1991, MDOT made the following recommendations:

"These structures are in fair structural condition, but the existing roadway width of 22 feet is substandard for the current ADT of 14400. A core inspection of the deck has found that the original structure deck to be in poor condition with heavy deterioration of the upper portion of structural deck and significant deterioration below the bottom re-steel to include corrosion, delamination and cracking." [14]

The Michigan Department of Transportation accepted the recommendations. Critical bridge replacement funding had already been approved. In June 1996, MDOT awarded the contract for the demolition of the northbound bridge. Work began in June 1996. The bridge is to be replaced by a modern MDOT standard designed bridge. Completion of the northbound span is scheduled for late Fall, 1996. Replacement of the southbound bridge is scheduled for 1997.

IV. THE M-120 NORTHBOUND BRIDGE

A. DESCRIPTION

The Cedar Creek bridge is constructed of reinforced concrete, of seven spans supported by solid concrete piers, with concrete wing walls. The bridge extends 79.4 meters (260 feet) in length and is 6.7 meters (22 feet) in width with a concrete walkway on the west side. The two end spans are 9.1 meters (30 feet) wide and the five center spans measure 12.1 meters (40 feet). The deck is supported by concrete tee-beams, which consist of rolled steel I-beams encased in concrete and used as stringers along the length of the bridge. Non-structural concrete beams extend the length of the bridge below the concrete railing giving the impression that the bridge is all concrete in construction. Decorative architectural detailing is limited; the major decorative element is the concrete guardrail set on fluted column balustrades interrupted by concrete piers with recessed panels.

When the bridges were first constructed, light standards were located on concrete piers at the entrance and exit of the bridge. These have been removed; no date for their removal was found. No detailed drawings of the light standards were found. Located on the top and side of the end pier at the southeast corner is the original bronze MSHD plaque. (This was in place when the original photographic documentation was undertaken in June, 1996, but was removed prior to demolition in June, 1996). The plaques had the following inscription:

FEDERAL AID BRIDGE
No B3 of 61-12-7 1929
BUILT JOINTLY BY
FEDERAL GOVERNMENT
STATE HIGHWAY COMMISSION
UNDER THE SUPERVISION OF
FRANK F. ROGERS - STATE HIGHWAY COMM. R.
CONTRACTOR LOVE CONST. & ENGR. CO.

The northeast corner is stamped with the bridge identification number: BO 3-61076.

B. MODIFICATIONS

The bridge has been generally unaltered since its construction in 1929. The original light standards were removed at an unknown date. The only other alteration has been the introduction of an "Armco" rolled steel railing at the southern approach to the bridge. The bridge is in a deteriorated condition with holes visible through the deck. Concrete spalling is common with portions of the railings, piers and balustrades missing.

C. OWNERSHIP AND FUTURE PLANS

The bridge was designated as Federal Aid Bridge when it was originally constructed in 1929. The bridge is owned by the State of Michigan, and is under the authority of the Michigan Department of Transportation, in Lansing, Michigan. The bridge was determined to have sufficient flaws to require its replacement. In June 1996, demolition work began on the northbound bridge. This is scheduled for completion in July and a new span will be erected in its place. The new northbound bridge is scheduled to be in operation in late Fall, 1996. Replacement of the southbound bridge is scheduled to begin in Spring [1997], with completion in late Fall, 1997.

V. FOOTNOTES

1. "Provides \$25,000 Be Applied Toward Memorial Highway." Muskegon Chronicle. November 6, 1926: 2.
2. Ibid., 2.
3. Hyde, Charles K. Historic Highway Bridges of Michigan. Detroit: Wayne State University Press, 1993: 36-37.
4. Melick, C.V. "Standard Bridge Practice of the Michigan State Highway Department." Concrete 23. 1923: 3-10.
5. Michigan State Highway Department. Twelfth Biennial Report, 1927-1928. Lansing, 1929: 146.
6. "War Dept. Puts Approval Seal Upon Causeway." Muskegon Chronicle, January 28, 1928: 1.
7. Report of the Chief of Engineers, U.S. Army, 1929: 2075.
8. "North Bridge To Be Erected This Summer." Muskegon Chronicle, February 2, 1928: 1.
9. Michigan State Highway Department-Bridge Division File (B3-61076): No Date.
10. Michigan State Highway Department-Bridge Division File (B2-61076): No Date.
11. Michigan State Highway Department. Fourteenth Biennial Report, 1930-1931: 212-213.
12. LeRoy Barnett, State Reference Archivist. Personal Interview: July 12, 1996.
13. Michigan Department of Transportation (Bridge Division File(B3-61076). Memorandum: Patrick W. O'Rourke to D. Abbott. May 15, 1989.
14. Michigan Department of Transportation. Project Authorization (BO2-61076). July 29, 1991.

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C. PERIODICALS

Melick, C.V. "Standard Bridge Practice of the Michigan State Highway Department." Concrete 23. 1923.

"Muskegon--North Muskegon Road." Michigan Roads and Airports. 31 December 1931.

D. NEWSPAPERS

"Causeway Park Plans Develop." Muskegon Chronicle July 12, 1932.

"Causeway Park Work Is Begun; War Memorial." Muskegon Chronicle July 13, 1932.

"Memorial Will Beautify Causeway Park." Muskegon Chronicle. August 6, 1932.

"Merritt Lamb Post Approves Plan for Memorial Causeway." Muskegon Chronicle. July 16, 1932.

"North Bridge To Be Erected This Summer." Muskegon Chronicle. February 2, 1928.

"Parade Will Precede Rites at Causeway." Muskegon Chronicle. November 10, 1934.

"Plans Discussed for Immediate Development of Causeway Park." Muskegon Chronicle. July 9, 1932.

"Plans for Veteran Memorial At Causeway Park Approved." Muskegon Chronicle. July 30, 1932.

"Provides \$25,000 Be Applied Toward Memorial Highway." Muskegon Chronicle. November 6, 1926.

"W.B. Gebhart to Execute Memorial." Muskegon Chronicle. August 5, 1932.

"War Dept. Puts Approval Seal Upon Causeway." Muskegon Chronicle. January 28, 1928.

"\$750,000 Project is Culmination of Decade of Effort." Muskegon Chronicle. November 11, 1934.